

PREFERRED ALTERNATIVE

Table 21 presents the preferred alternative and describes the projects that make up the alternative. The projects include surface water ASR, reclaimed water ASR, and interconnects. Table 21 also presents the supply benefit that each project is estimated to provide.

Table 21
Sub-regional Alternatives Summary

No.	Alternatives	Benefit or Recovery Capacity (MGD)	No. of Wells	Infrastructure needed
1.	Golden Gate Canal ASR – 17 th Ave.	20	28	Intake system, pumping station, ASR wells and chemical treatment system
2.	Golden Gate Canal ASR – Airport Road	25	35	Intake system, pumping station, ASR wells and chemical treatment system
3.	Faka Union Canal ASR	25	35	Intake system, pumping station, ASR wells and chemical treatment system
4.	Cocohatchee River ASR	5	8	Intake system, pumping station, ASR wells and chemical treatment system
5.	Kehl Canal ASR	12	18	Intake system, pumping station, ASR wells and chemical treatment system
6.	North Collier \ Bonita Springs Interconnect	10.5	15	Pumping station, ASR wells, chemical treatment system and interconnect piping. Not exclusive of Alternatives 9 and 13.
7.	Naples \ South Collier Interconnect	12	18	Pumping station, ASR wells, chemical treatment system and interconnect piping. Not exclusive of Alternatives 10 and 11.
8A/8B.	Pelican Bay and Collier County North	8.1	13	Pumping station, ASR wells, and chemical treatment system
9.	Collier County South	6.6	11	Pumping station, ASR wells, and chemical treatment system
10.	Naples	5.4	14	Pumping station, ASR wells, and chemical treatment system
11.	Golden Gate	0.5	2	Pumping station, ASR wells, and chemical treatment system
12.	Bonita Springs Utilities	2.4	5	Pumping station, ASR wells, and chemical treatment system
13	North Collier / South Collier Interconnect	14.7	21	Pumping station, ASR wells, chemical treatment system and interconnect piping. Not exclusive of Alternatives 9 and 10.
14.	Golden Gate Mine Pit	1.5	0	Intake, pumping station, and chemical treatment system
	Total Benefit or Recovery Capacity	148.7	223	Total does not include redundant benefit from the Interconnect Alternatives 6, 7 and 8.

Figure 14 presents the ASR system locations and interconnect routes.

ALTERNATIVE SELECTION

Each of the projects shown in Table 21 were evaluated to best meet the supply needs of this sub-region and to determine the feasibility of its implementation using the criteria described below. Each selection criterion is scored between 1 and 5, for each project, with the higher score resulting in a higher priority. The scoring is shown on Table 23. The prioritized projects will then be used in the implementation strategy. The following provides a brief description of each evaluation criterion.

Capacity Benefit

Evaluates the amount of supplemental water (benefit) that each project will provide to offset potable or ground water use for urban irrigation. The benefit is estimated in million of gallons per day. The capacity benefit ranking was based on the range of supply provided as shown below:

From 1 MGD to 4 MGD Rank = 1

From 5 MGD to 9 MGD Rank = 2

From 10 MGD to 14 MGD Rank = 3

From 15 MGD to 19 MGD Rank = 4

Greater than 20 MGD Rank = 5

Permittability

All of the projects included in the recommended alternative are permittable and there are several precedents for each in the region and throughout the State. Some projects, such as interconnects are much easier to permit than the others, which is reflected in the scoring.

Proximity to Existing Infrastructure

There is an extensive network of existing infrastructure throughout the sub-region that will provide a means of transmission from the new sources of supply to the areas of need. Some projects are close to the existing transmission system, making implementation more economical. For example, a transmission system 1,000 feet would result in 5. Larger distances will result in lower scores.

Unit Cost

A unit cost was calculated for each of the projects, as shown in Table 22. The unit cost includes the construction, land acquisition, of the project, engineering, pilot testing and operation and maintenance (O&M). Currently, the technology required for surface water ASR includes bank-filtration, pH adjustment, and chlorine/chloramines disinfection.

Table 22
Project Unit Cost

Project	Cost per 1000 gallons
1. Golden Gate Canal – 17th Ave.	\$1.31
2. Golden Gate Canal - Airport Rd.	\$1.17
3. Faka Union Slough	\$1.63
4. Cocohatchee River	\$1.58
5. Kehl Canal	\$1.31
6. N. Collier/BSU Interconnect	\$1.24
7. S. Collier/Naples Interconnect	\$1.12
8A. Pelican Bay / 8B. Collier County North	\$1.17
9. Collier County South	\$1.20
10. Naples	\$1.31
11. Golden Gate	\$4.28
12. Bonita Springs Utilities	\$1.72
13. N. Collier Cty/S. Collier Cty Interconnect	\$1.06
14. Golden Gate Mine Pits	\$2.91

Shown below is the ranking of the unit cost based on price ranges. The final ranking is presented in Table 23.

From \$1.00-\$1.25 Rank = 5

From \$1.26-\$1.50 Rank = 4

From \$1.51-\$1.75 Rank = 3

From \$1.76 - \$2.00 Rank = 2

From \$2.01-\$Up Rank = 1

Participation Interest

Some of the stakeholders in the RIDS have expressed more interest and participated more extensively than others. As this is primarily a voluntary program for the stakeholders, their anticipated participation is scored accordingly.

Funding Ability

The projects included in the preferred alternative are fundable through SRF loans and should be eligible for a number of state and federal grants. Funding has been directed towards projects with regional benefits and those that offset potable use and groundwater pumpage, i.e., alternative sources of supply. The availability of state and federal grant programs has been based on legislative and congressional approval; therefore, a funding strategy based on the latest programs will be provided for the preferred alternative in the final report.

Consistency with Master Plan

The stakeholders have developed or are developing master plans to improve and expand their system. The development of the RIDS has integrated the plans of the stakeholders. Therefore, this criterion evaluates how each of the projects could be integrated to the improvements planned.

Table 23
Project and Criteria Evaluation

Supply Projects		Capacity Benefit	Permit-ability	Proximity to Existing Infrastructure	Unit Cost	Participation Interest	Funding Ability	Consistency with Master Plans	Total Points	Rank
1	Golden Gate Canal Surface Water ASR – 17 th Ave.	4	3	1	4	4	4	4	24	7
2	Golden Gate Canal Surface Water ASR – Airport Road	5	3	5	5	4	4	4	30	2
3	Faka Union Canal Surface Water ASR	5	3	3	2	2	2	3	20	9
4	Cocohatchee River Surface Water ASR	2	3	5	2	4	4	4	24	7
5	Kehl Canal Surface Water ASR	3	3	1	4	5	4	5	25	6
6	North Collier \ Bonita Springs Interconnect	3	5	1	3	5	5	5	29	3
7	Naples \ South Collier Interconnect	3	5	5	3	3	5	5	31	1
8	Pelican Bay and Collier County North Reclaimed Water ASR	3	3	5	4	4	4	4	27	4
9	Collier County South Reclaimed Water ASR	2	3	5	4	4	4	4	26	5
10	Naples Reclaimed Water ASR	2	3	5	3	1	4	2	20	9
11	Golden Gate Reclaimed Water ASR	2	3	1	1	3	4	3	17	10
12	Bonita Springs Utilities Reclaimed Water ASR	1	3	1	2	5	4	5	21	8
13	North Collier / South Collier Interconnect	1	5	5	5	5	5	5	31	1
14	Golden Gate Mine Pit	1	4	1	1	2	3	2	14	11